

## Chapter Three: IID Research, the Wisconsin Experience, and the National Experience

### The Commercial Element of IIDs in Wisconsin

The ignition interlock device did not develop in a vacuum. The selling, marketing, and servicing of IIDs are an industry. Below are a series of maps: Figure 2 shows the 10 most populated counties of Wisconsin. Figure 3 shows the 10 counties with the highest IID caseloads; unsurprisingly, 9 out of 10 of these are identical to the most populated counties, which probably have the most cars, drivers, and miles driven. Figure 4 shows the 10 counties with the most IID orders in 2002, which do not match nearly as closely with the first two maps.

Figure 2: Highlighted Counties indicate 10 most populous (2002 adjusted census)

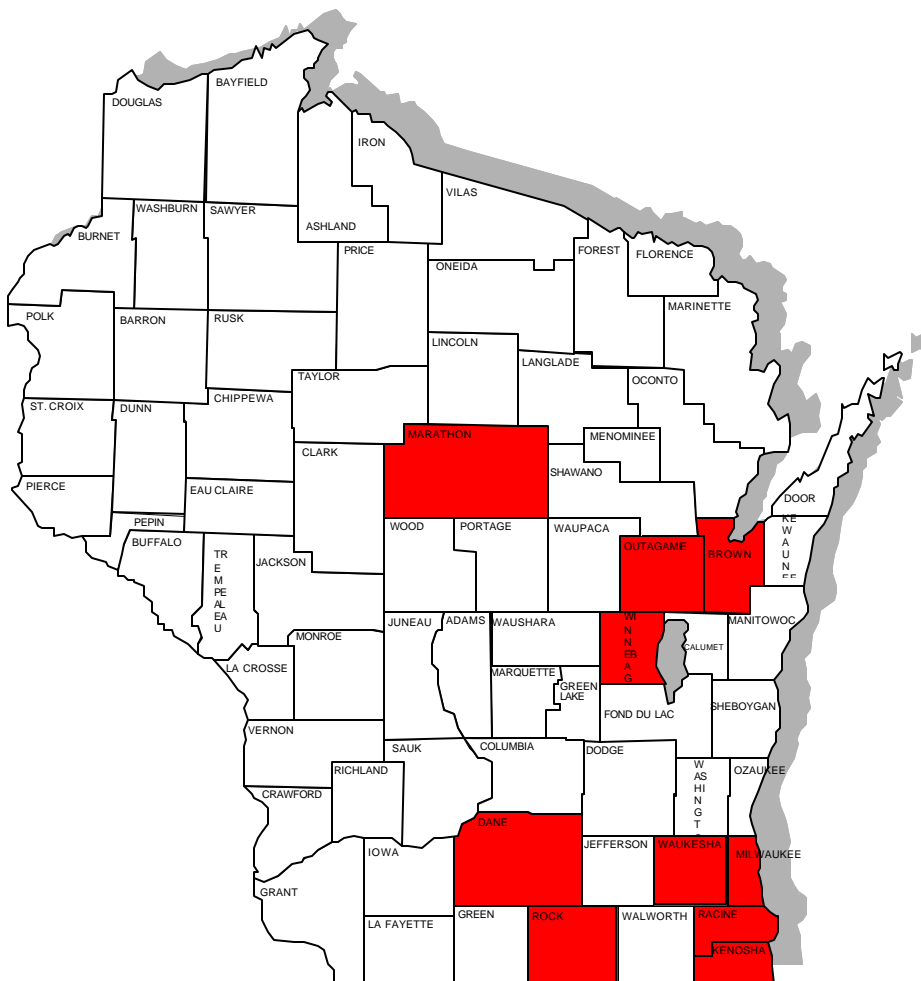


Figure 3:  
Highlighted Counties indicate 10 most repeat OWI  
convictions (2001 Alcohol Traffic Facts)

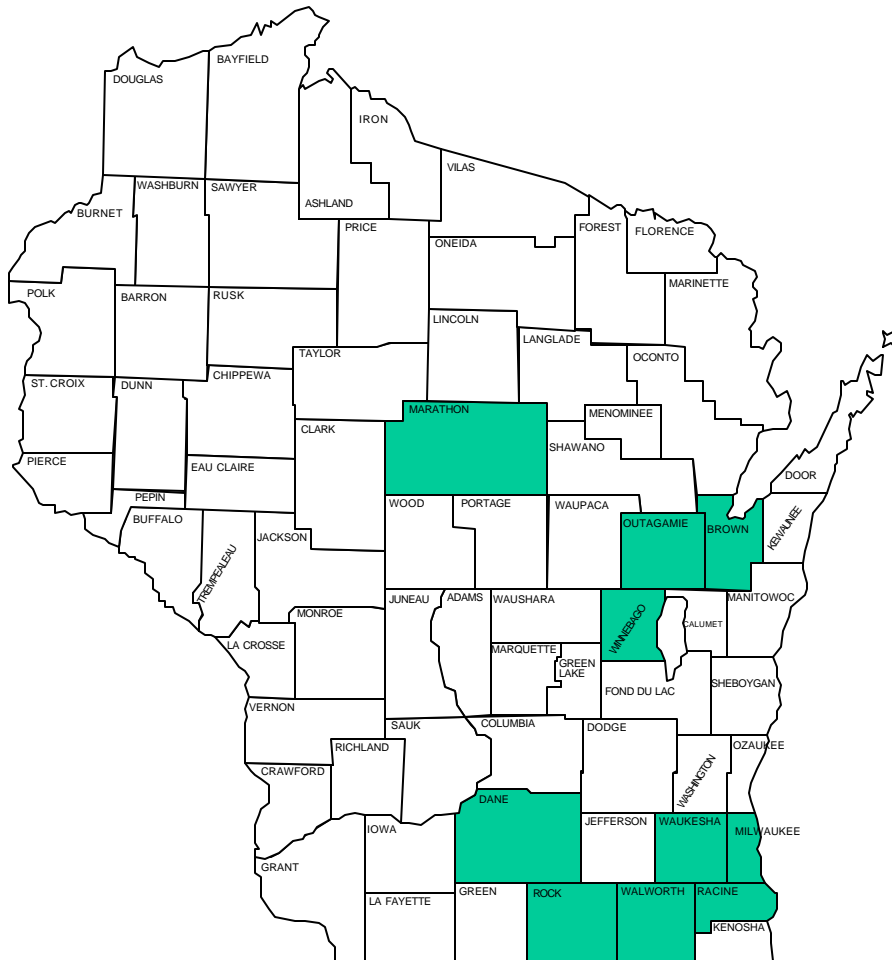
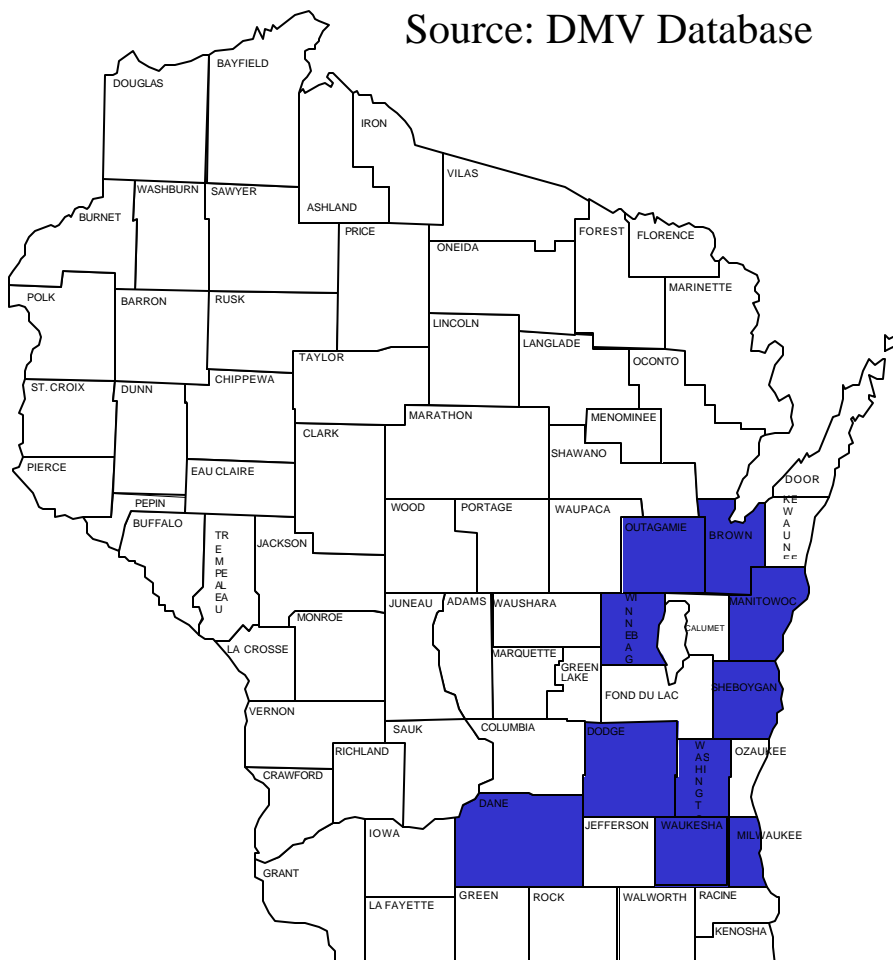


Figure 4: Highlighted Counties indicate most IID orders



<b>Figure 5: Comparison of Most IID Orders, Repeat OWI Convictions, and Population By County for 2002 (Convictions Use 2001 Data)</b>			
	<b>Most IID orders</b>	<b>Most repeat OWI convictions</b>	<b>Largest population</b>
1	Milwaukee	Dane	Milwaukee
2	Waukesha	Milwaukee	Dane
3	Winnebago	Waukesha	Waukesha
4	Outagamie	Brown	Brown
5	Dane	Winnebago	Racine
6	Sheboygan	Outagamie	Winnebago
7	Washington	Rock	Outagamie
8	Manitowoc	Marathon	Rock
9	Brown	Racine	Kenosha
10	Dodge	Walworth	Marathon

The maps suggest that IIDs are used more robustly in areas closer to the largest IID distributor. The largest IID installation center is in Appleton (Outagamie county) and the third map (most IID orders) reveals a clustering around Lake Winnebago. In fact, aside from the three counties with by far the largest populations (Milwaukee, Dane, Waukesha respectively) the other seven of the top ten IID order counties surround that Lake Winnebago area. Contrastingly, in terms of distribution of population and OWI arrests, the counties are spread further.

One of the avenues to be investigated further is whether the assignment of IIDs is biased – that is, do proportionally more IIDs go to low-income drivers, younger drivers, minority drivers, etc. Bias is an issue for two reasons: firstly, for the sake of judicial fairness; and secondly, for the construction of a fair IID study. If more IIDs are assigned to higher-income drivers (as some research suggests, perhaps not surprisingly given the cost of IID implementation) then it may be difficult to separate the success of the IID from the initial advantage of having more income. This problem of *selection bias* is addressed elsewhere in the paper.

From the data on IID orders by county, there is the possibility of *geographic bias* – that a person in a county closer to an IID vendor is significantly more likely to have an IID ordered. These maps are not intended to provide conclusive evidence of a geographic bias. But the data does suggest that in collecting qualitative and quantitative data, close attention should be paid to whether IIDs are assigned consistently.

IIDs are probably not assigned uniformly. Experiences with other drunk driving issues show that the size, wealth, and political orientation of the county exert varying effects on how OWI arrests are dealt with. It would surprise some to know that while arrests may (or may not) be conducted similarly, OWI convictions are much more difficult to attain in some counties than in others.

Some reasons for differential IID implementation are immediately obvious. Firstly is the issue of awareness and marketing. IIDs are not a uniformly known entity, among the judiciary or law enforcement, let alone the driver. Where a vendor is nearby, he or she is able to introduce his product to the court system.

Secondly, there is a geographic problem. IIDs are still new, and vendors are concentrated in the populous parts of the state. So in areas close to IID vendors, the IID can be ordered without inflicting the additional hardship of long-distance travel upon the recipient. Vendors have statewide servicing with a traveling van, but installation can only be completed at certain centers.

Some authors have likened the corrections/industry connection to the military/industry connection. Indeed, law enforcement can be viewed as simply ‘defense’ on a smaller scale. The relationship between the vendors of IIDs and the court systems should be scrutinized, to ensure the absence of impropriety.

### **Who Needs an IID?**

People often talk about recidivist drunk drivers as though they were a small but comprehensible category. Although recidivism is uncommon, and recidivists are less receptive to traditional measures to combat drunk driving, it would still be a mistake to lump these individuals together. A wealth of research on driving while intoxicated offenders indicates that

*“Most programs treat DWI offenders as if they were a homogeneous group. The present results ... suggest that the DWI population is not homogeneous but rather composed of a number of clinically relevant subtypes. Such findings imply the need for differential assessment of personality characteristics of the DWI offender ... The model of differential assessment suggested by the present results potentially would lead to a closer match between DWI arrestees and modes of intervention most appropriate to their particular needs.” (Donovan & Marlatt, 1982, p. 247)*

The study quoted here, of course, was done before IIDs had emerged as a law enforcement device. Nonetheless, the point is worth considering.

A number of studies have looked at OWI offenders, administered assessments and written tests, and tried to separate people into discernable groups. Some of these studies identify as many as ten subgroups within the drunk driving sample (sometimes called psychometric categories – see Donovan & Marlatt 1982). In general, the passive/introvert/depressive type and the aggressive/extrovert/irritable type stand out. Also, while most OWI repeat offenders are working-class males in their late thirties and early forties, there exists a distinct subgroup of older businessmen and professionals who habitually re-offend. These types are worth considering in an assessment, because they may respond to sanctions and treatments differently.

### **The Framework in which IIDs operate**

Dealing with alcoholism and its many side effects such as drunk driving can be frustrating. IIDs, like many other state programs, address alcohol after it has become a large part of an individual's life. Alcoholics Anonymous, group dynamics counseling, therapy, license revocation, and IIDs are all measures that are implemented after a person has developed a problematic relationship with alcohol. Our assessment of IID hence compares IIDs to these traditional tools and sanctions. However, it is difficult to evaluate how useful IIDs are compared to preventative measures.

An excellent paper by Nichols and Ross examines the prevailing options for dealing with OWI offenders. The review of literature finds that:

- Jail sentences are generally too expensive and have a minimal long term rehabilitation effect (they do sometimes have a deterrent effect, as mentioned earlier for first-time offenders – however first time offenders cannot receive jail time in Wisconsin),
- Fines are ineffective, often go unpaid, and have little deterrent or rehabilitative effect,
- License revocation works – although drivers certainly continue to drive without a license, the bulk of the evidence shows that they drive slower, are involved in fewer crashes, and drive less at high-risk times. Also, license revocation is affordable and easily administered.

### **The Wisconsin OWI Process**

Figure 6 shows the change in OWI penalties from May 1, 1991, compared to the law as of January 1, 2003. The introduction of the IID specifically and vehicle sanctions generally is perhaps the *principal statutory change* in OWI law in the last decade.<sup>2</sup> The other major shift is a rule change dictating that drunken driving offenses are now counted for the lifetime of the driver, starting January 1, 1989. Otherwise, fines, jail time, license suspension, and assessment have all remained almost exactly the same. The notable exceptions are steeply increased fines and possible prison time for fifth or greater OWI offense, but this affects only a small segment of the drunk driving population.

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<sup>2</sup> This report was written *before* passage of 2003 Wisconsin Act 30 which changed the *per se* Blood Alcohol Content (BAC) for first offense OWI. The new law, which was implemented beginning on 9/30/03, changed the prohibited BAC from 0.10 to 0.08 and above for first offense OWI.

**Figure 6: Changes in Wisconsin OWI sanctions, 1992-2002**

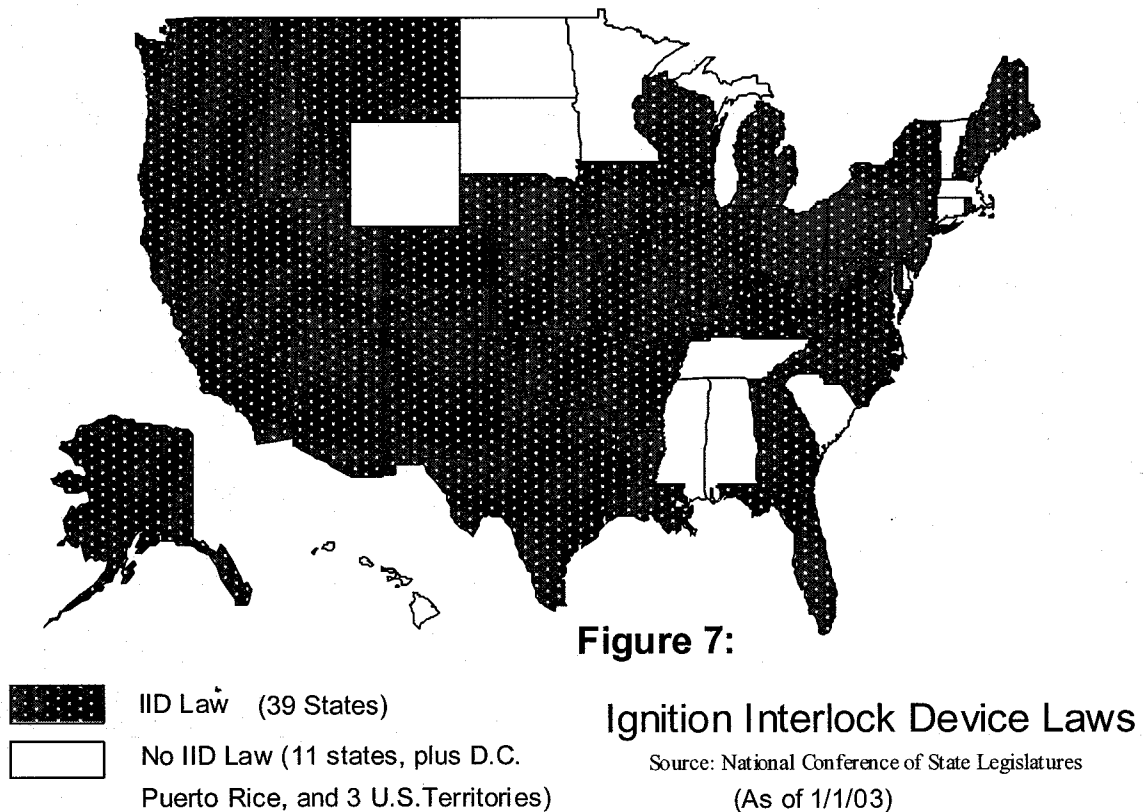
	<b>Fine</b>	<b>OWI sur-charge</b>	<b>Jail time</b>	<b>Length of license suspension</b>	<b>Vehicle Sanctions</b>	<b>License points</b>	<b>Assessment requirement</b>
<b>Number of OWI Convictions</b>							
1	No change	Raised \$105	No change	No change	No change	No change	No change
2	Minimum raised \$50; maximum raised by \$100	Raised \$105	No change	No change	<i>Optional IID, seizure, or immobilization</i>	No change	No change
3	Minimum unchanged; maximum raised by \$800	Raised \$105	No change	No change	<i>Mandatory IID, seizure, or immobilization</i>	No change	No change
4	Minimum unchanged; maximum raised by \$800	Raised \$105	No change	No change	<i>Mandatory IID, seizure, or immobilization</i>	No change	No change
5 or more	Minimum unchanged; maximum raised by \$8800	Raised \$105	Min. unchanged; maximum raised by 5 years (Class H Felony)	No change	<i>Mandatory IID, seizure, or immobilization</i>	No change	No change



### **The national experience with IIDs**

As of January 1, 2003, thirty-nine states had IID laws on the books. IID technology is new, and few states had the device in place prior to the 1990s. But IIDs have become widespread across the United States, Canadian provinces, and Scandinavia.

Comparatively few states have conducted assessments of their IID programs, and some that have experienced brief or narrow measures of success and failure.



### **The law of drunk driving**

*“Over time the drunk driving laws have become even more preemptive. The law now punishes a driver for operating a vehicle while his BAC exceeds a certain level – this regardless of whether the driver could pass a field sobriety test, much less whether he is driving competently. In effect, the law makes it an offense to drive while possessing a physiological characteristic that correlates with the inability to pass a test that itself correlates in turn with unsafe driving.”*

James Jacobs, Drunk Driving: An American Dilemma, p. 61

The law of drunk driving is curious, because it is quite inconsistent with other parts of criminal law. The law is preemptive: it defines the crime before it has been committed. A comparison is made to a concealed weapon law: the person with a concealed gun has not yet harmed anyone, but society has chosen not to wait until he does. Instead, the state acts to forestall the potential crime. So why is drunk driving a crime, or why is it so severe a crime?

Jacobs ties drunken driving to the development of the concept of reckless endangerment, first explicitly set forth under the Model Penal Code in 1960. Clearly, driving while intoxicated is an endangerment in the public realm. So is speeding, weaving, failing to signal, and ignoring a stop sign, and it is this same argument that extends to attempts to make talking on a cellular phone while driving a crime.

Should the line be drawn at a certain BAC level, or should the line be drawn based on actual behavior on the road? Jacobs's line of thinking is useful to think about why IIDs exist, and what is expected of them. The decision to have a certain BAC level as a threshold (.02) permits the driver a certain level of impairment that is not criminal. This distinction is common, but it is not universal: in Norway any non-zero BAC level is criminal.

### **The issue of compliance**

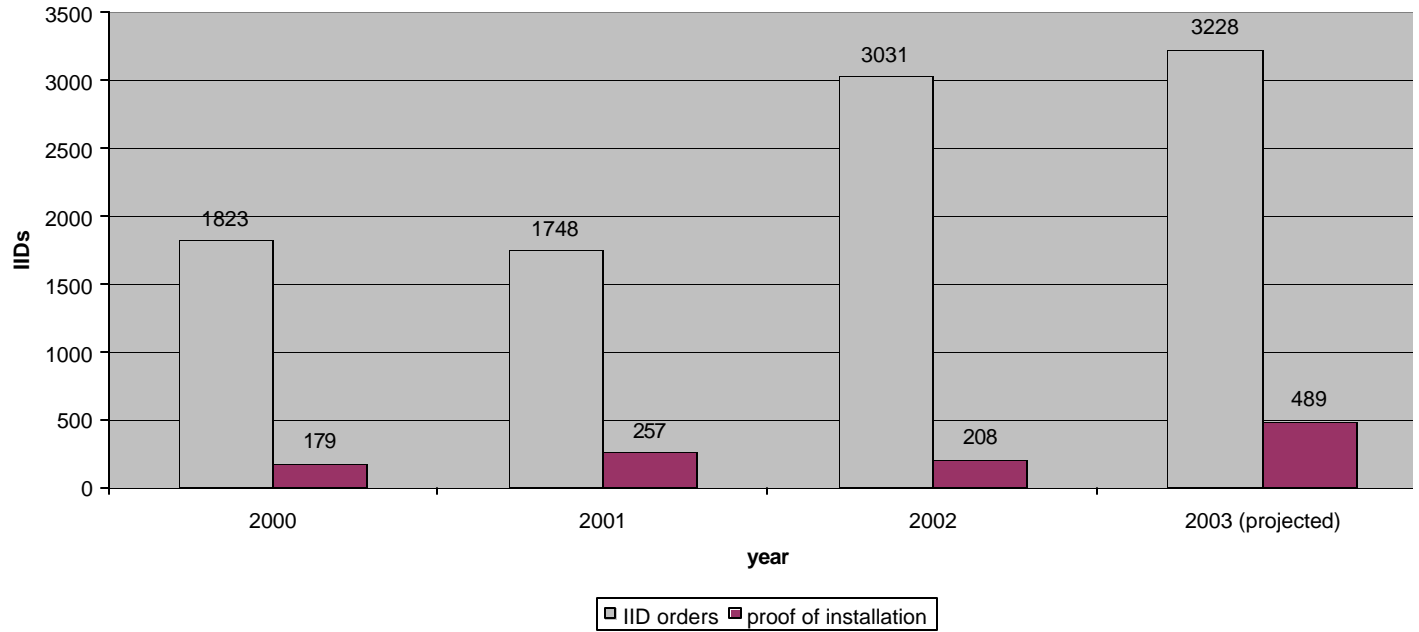
The main defect of the current IID law is shown in Figure 8. It appears that the implementation of law, from the court order to actual installation, is extremely loose. Most drivers receive the court order, and simply never comply. Their license is restricted, but limited knowledge about IIDs and infrequent interaction with law enforcement means that failure to heed the law is rarely punished.

In addition, compliance with the IID order requires *reinstatement* of the operating privileges. Drivers often continue to operate under a revoked status, which may or may not be related to the IID requirement, but could also involve other issues as well. Operating under revoked status can result in another serious charge, Operating After Revocation.

Also, as mentioned in the previous section, the state would like to achieve maximum results without committing too much officer and court time to drunk driving. This is why time and money is spent on preventative measures (in the form of public relations campaigns) and why the IID seems like a probable solution. *But without resources for IID compliance, the program will have limited success.* And this is indeed what the numbers below suggest.

Here, it is useful to think about the utilitarian behavioral model. Although this does not apply to the *act* of drunk driving, it can certainly apply in other areas of life, particularly potentially expensive choices. The cost of complying with the court order is high, probably higher than the potential cost of not complying, considering the low possibility of being caught.

**Figure 8: Comparison of IID court orders to IID compliance, 2000-2003**  
2000-2002 compliance manually reported; 2003 compliance automated  
2003 annual numbers projected based upon January-April tabulations



### **The real application of IID law**

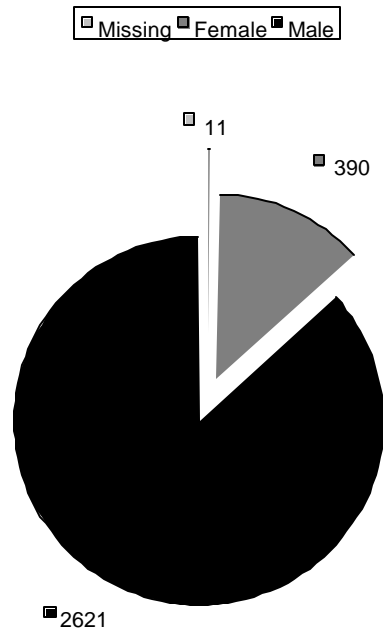
Application of IIDs is variable, depending on a judge's outlook and awareness of the technology. The application of the law across the state is not uniform; judges may conform to the letter of the law, but in the case of a second offense when judicial discretion is involved, differences arise. It is important to note that *there is no court situation where IIDs must be implemented*, though they may be mandatory in matters of license reinstatement. There are only situations where some sanction must be implemented, and an IID is one of few options. IIDs are typically seen as the best sanction, although clearly circumstances can still dictate that seizure or immobilization would be preferable.

Some judges have attempted to prescribe the IID for problem drivers who were not convicted of alcohol-related offenses, but whose patterns of offense suggest that drinking may be a factor. In *State of Wisconsin v. Darling* (143 Wis.2d 839 (Ct.App. 1988)) an appeals court maintained that a court could not order the driver's occupational license restricted to prohibit operation of a motor vehicle within 12 hours of drinking alcohol. By extension, the court probably lacks the authority to impose an IID where the statute does not present the option.

Looking at Figures 9, 10 and 11, IID use fits with the general recidivist drunk driver profile. Most drunk drivers are men aged 30-44, and so are most IID recipients. The geographic distribution of IIDs around the state shows a high proportion in the northeast and southeast, re-emphasizing the issue of geographic bias that was mentioned earlier.

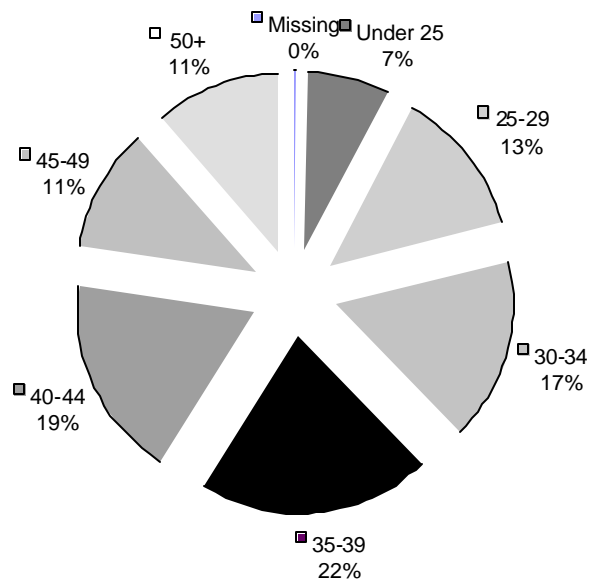
**Figure 9**

**ID court orders by gender, Calendar year 2002**  
**Source: DMV Database**



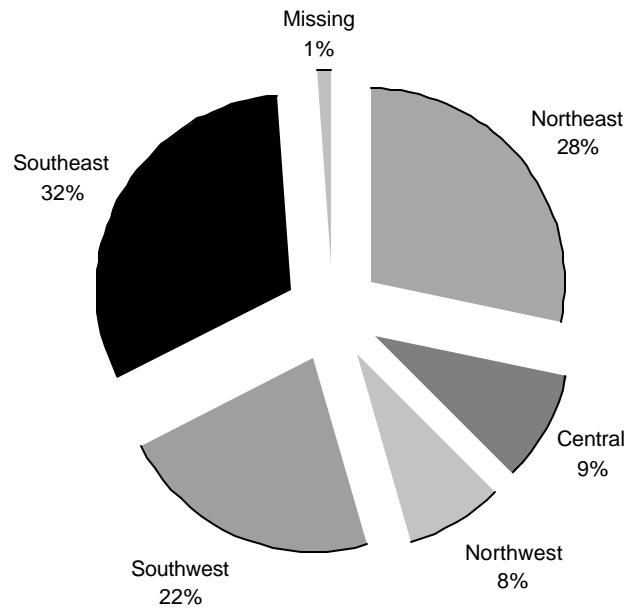
**Figure 10**

**IID court orders by age category, Calendar year 2002: Total orders = 3022**  
**Source: DMV Database**



**Figure 11**

**IID court orders by Region, calendar year 2002, total orders = 3022**  
**Source: DMV Database**





### **Regional definitions by county:**

Northeast: Marinette, Oconto, Menominee, Shawano, Outagamie, Winnebago, Calumet, Sheboygan, Manitowoc, Brown, Kewaunee, Door.

Southeast: Fond du Lac, Waukesha, Washington, Ozaukee, Milwaukee, Racine, Kenosha, Walworth.

Central: Iron, Vilas, Forest, Florence, Price, Lincoln, Oneida, Langlade, Marathon, Wood, Portage, Waupaca, Adams, Juneau, Waushara, Marquette, Green Lake.

Northwest: Douglas, Bayfield, Ashland, Burnett, Washburn, Sawyer, Rusk, Barron, Polk, St Croix, Pierce, Pepin, Dunn, Eau Claire, Chippewa, Clark, Taylor.

Southwest: Buffalo, Trempealeau, La Crosse, Jackson, Monroe, Vernon, Richland, Crawford, Grant, Iowa, LaFayette, Sauk, Columbia, Dane, Green, Rock, Dodge, Jefferson.

Regional groupings are based upon WisDOT program manager regions.

### **How is the IID implemented?**

When IIDs were put into law in 1993, much of the specifics were left to the Department of Transportation. In turn, the DOT developed Ch. Trans 313, an administrative rule that is currently undergoing minor revisions. The rule stipulates relevant details not covered by statute, including that IIDs approved in the state must record the date and time of each test, any attempt to subvert the device, and the BAC level from each test. This data collection may be useful in constructing an empirical study of IIDs.

### **Research on vehicular sanctions: a contentious subject**

Because IIDs have only recently become available as a sentencing tool, much less data and research exists on their efficacy compared to other, more straightforward methods of drunk driving deterrence such as license revocation. Nonetheless, a literature has emerged in scholarly journals such as Addiction, Crime and Delinquency, and the Journal of Drug Issues that addresses whether or not IIDs work.

Research on IIDs attempts to answer the basic question of whether IIDs work. Again, there is the need to define the terms of success. Different researchers define IID effectiveness differently. Generally, though, studies focus on whether IIDs have any *long-term* effectiveness in preventing either drunk driving or broader reckless driving behavior. Since IIDs are a temporary measure, they are often compared with other short-term provisions such as license suspension.

What follows is not an encyclopedic discussion of the writing on IIDs. These are some of the relevant and conclusive studies that have been conducted. For more research on IIDs, please see the bibliography at the end of this report.

### **Research on IIDs**

#### *Morse and Elliot's experiment*

“Effects of Ignition Interlock Devices on DUI Recidivism: Findings from a Longitudinal Study in Hamilton County, Ohio.” *Crime & Delinquency* 38:131-57

One of the first program evaluation efforts was conducted in the Cincinnati area (Hamilton County, Ohio) in the late 1980s, when IIDs were essentially brand new (Morse and Elliott, 1990). The study selected as eligible participants three groups: recidivists; anyone arrested with .20 or higher BAC; and offenders who refused a BAC after arrest. The judge, who had the option whether or not to offer a reinstated license with IID, or simply to revoke the license of the offender, made the first cut of decision. Secondly, the offenders who were offered the device chose whether to accept an IID, or refuse it and accept a license suspension instead.

Next, extensive data was collected on demographic identifiers, court reports, and prior arrests, and assessment interviews were conducted with participants, both those with and those without IIDs (the test and control groups). The characteristics were compared to see if there was a bias by judges in offering the IIDs. Were IIDs offered more frequently to women, white people, wealthier people, people with cleaner driving or arrest records? If judges consistently offered the option to one group much more than another, then the study would be hard to conduct.

The problem that concerns the researchers is *selection bias*, an issue that affects much of the research on IIDs. Plainly, if IIDs are more frequently offered to a particular group – harder drinkers, less affluent people, married people – then it is very difficult to separate the effects of the IID on recidivism from the effects of being an alcoholic, poor, or having more family support on recidivism. But Morse and Elliot found that there was great consistency in judges' offerings across age, race, class, and marital status. Judges were more likely to prescribe the IID for repeat offenders than for first-time offenders. This focus on the recidivist mirrors how the IID law has been implemented in Wisconsin.

However, a second type of selection bias was possible in the second cut. Were the individuals who installed the IID different from those who did not? The researchers found that ‘those who accepted were more often white, working-class males with substantially higher incomes’ (Morse and Elliot 1992: p. 144). Given that the participant must pay for the cost of the IID, this comes as no surprise. Still, if IID participants have systematically higher incomes, then it can be hard to separate the success of IIDs from the ‘head start’ of greater financial security.

## Conclusions

The metric of measurement in this study is simple and limited. The authors investigated the survival rate, that is, the percentage of participants who had completed a time period without an OWI re-arrest. They concluded that drivers with IIDs were almost three times less likely to re-offend over a 2.5 year period. This was the first large-scale program evaluation study of IIDs, and it concluded that the devices were promising and achieved the desired results.

Although the study is optimistic, it is one of the first attempts at evaluation and is not without its flaws. Firstly, it makes no prognostication as to long term benefits (more than 2.5 years) from IID implementation. In fact, the charts clearly show that while survival rates diverge noticeably over the first year, there is little effect after the first year. This confirms a hypothesis put forth by other researchers: that the first year after OWI convictions constitutes the highest risk period for re-offending.

This study also raises the question of what IID success really means. If there is one thing that IIDs provide, while they are installed, is a very small chance of re-arrest for OWI because it becomes difficult to drink and drive. However, it should be noted that drivers who drink and drive without IIDs are also frequently not arrested because an OWI arrest is usually the eventual result of dozens of incidents.

## Beck, Rauch, Baker and Williams

“Effects of Ignition Interlock License Restrictions on Drivers with Multiple Alcohol Offenses: A Randomized Trial in Maryland.” American Journal of Public Health 89:1696-1700.

These researchers conducted a randomized trial of IIDs in Maryland. That is, multiple alcohol offenders who had had their licenses suspended and were eligible for restricted reinstatement were assigned to one of two groups: either a conventional counseling and treatment program (the control group) or the installation of an IID for one year, with no additional treatment (the test group). The authors stress the importance of *randomly assigning* IIDs to a group of offenders. Using random assignment, the two groups were almost identical in distribution of age, sex, education, marital status, race, and income. They criticize earlier studies for limiting the strength of their conclusions by creating an unfair comparison between IID groups – say, comparing IIDs to no sanction of treatment at all.

The authors are also skeptical of the broad claims made by manufacturers, who often conduct their own studies with their own scientists. The study acknowledges that IIDs are a publicly popular idea, but caution that this does not mean they actually do what they claim.

One conclusion of this study and others is that *the first year after any OWI conviction is a uniquely high-risk period*. Offenders are much more likely to engage in risky behavior

and recidivate shortly after arrest and conviction, compared to several years down the road. It is not apparent why this is the case; but the conclusion is that it is important to 'break the habit' quickly.

IIDs at first appear to succeed in this goal. Beck et al find that during the first year of comparison, IID participants were two thirds less likely than the control group to commit an alcohol traffic violation.

In the two years combined, the IID group still had fewer total alcohol traffic offenses. But in the second year of the study, after the IID had been removed, more drivers from the interlock group than from the treatment group recidivated. In other words, the IID only works when it is on the automobile. It does not correct behavior or reap long-term preventative gains. Moreover, *conventional treatment appears to be more effective in the long-term deterrence of alcohol traffic violations.*

The study was very diligent in assuring that both the control and experiment group complied with the terms of the agreement. If a member of the test group did not have an IID installed within 45 days of the order, their license was revoked again.

In their conclusion, the authors say:

“The results suggest that for certain chronic offenders, interlock restrictions may have to be maintained for longer than 12 months – perhaps indefinitely.” (p. 1699)

While this is a bold suggestion, it does not seem feasible. Since the driver pays for IIDs, requiring an IID in perpetuity places a lifetime financial burden upon the offender. No doubt some would argue that this cost is far smaller than the loss of life or cost to society of dealing with further recidivism by certain drivers. However, in terms of requiring offenders to pay their way, the Maryland study suggests that over a longer period of time, the money would be better spent on treatment and behavior modification programs.

The authors also arrive at a conclusion shared with other researchers: that IIDs are useful for certain types of recidivists, but not necessarily useful to all of them. In effect, our law reflects this differentiation, where a judge may opt for an IID instead of seizure or immobilization, but always has discretion among these three choices. The important point is that IIDs, if they are properly implemented, suit a certain kind of chronic offender, the more incorrigible recidivist who does not respond to other treatments and simply needs to be stopped from harming others.

It is conceivable that a similar study could be conducted in Wisconsin. It might find, like Beck et al, that IIDs work when installed. However, following the course of this study would ignore a very important point that has been mentioned earlier: *the large majority of IID orders are never acted upon.* Copying a study that ensured IIDs installation within 45 days would not be representing the current state of affairs in Wisconsin.

This points to two separate questions about ignition interlock. What the Maryland study aimed to investigate was the question do IIDs work? The researchers designed a scientific study, with firm controls to make sure they were evaluating IID *use*. However, this is different from the question: does the IID law and procedure of Wisconsin work? A study that mandates compliance ignores the fact that outside of the study, compliance is the exception rather than the rule.

These studies provide a template for designing an IID assessment in Wisconsin. The questions are:

- What are IIDs compared against?
- Is the concern the effectiveness of IIDs *per se*, or the effectiveness of IID law and process?

Finally, there is an exceptionally important point regarding new federal law. The study concludes that IIDs work best in the short term, to keep the offender out of trouble during the first high-risk year. *Yet the federal, one-year hard suspension rule (which applies to persons with two, or more OWIs within 5-year period) prohibits the use of the IID in the first year after conviction.*

Raub, Richard A, Roy E. Lucke and Richard I. Wark.

“Breath Alcohol Ignition interlock Devices: Controlling the Recidivist.” Traffic Injury Prevention, 4:199-205. Taylor and Francis, Inc. (2003).

(Abstract)

“This study compares the recidivist rates of two groups of Illinois drivers who had their driver’s licenses revoked for alcohol-impaired driving and who received restricted driving permits. Drivers in both groups had more than two driving under the influence (DUI) actions against their record within 5 years or were classed as level III alcohol dependents. Drivers in one group were required to install IIDs in their vehicles and drivers in the other vehicle were not.

The research found that drivers with the IID were one-fifth as likely to be arrested for DUI during the 1 year the device was installed as compared to the group, which did not have the device. However, once the IID was removed, drivers in this group rapidly returned to DUI arrest rates similar to those in the comparison group. Additionally, the study showed that this voluntary program in Illinois reached only 16% of the drivers who met the requirements for installing IIDs.

Finally, this study found that individuals who were removed from the IID and returned to revoked status continued to drive. Within 3 years, approximately 50% of this latter group were involved in a crash or were arrested for DUI or with an invalid driver’s license.

Conclusions drawn from the study suggest that the IID is effective in preventing continued driving while impaired. However, the large-scale effectiveness is limited since most of the drivers eligible for the device do not have it installed. To have a significant impact, the IID must represent a better alternative to drivers whose licenses were suspended or revoked because of alcohol arrests compared to remaining on revoked status without having the device installed. Finally, the research suggests that, given the rapid return to pre-device recidivism, the devices should remain installed until drivers can demonstrate an extended period of being alcohol-free.”

### Weinrath

“The Ignition Interlock Program for Drunk Drivers: A Multivariate Test.” *Crime & Delinquency* 43:42-59.

Weinrath quickly points out the unfortunate fact that underscores most alcohol research: that while certain programs work better than others, no program works unequivocally well. Alcohol-impaired behavior is such an intractable problem that license revocation, AA, counseling; indeed most intervention programs fail most of the time.

As a result, vehicle sanctions, of which the IID is the most prominent, have become popular i.e. not as a program to change alcohol-impaired behavior; but as a tool to reduce the threat that the drunken driver poses to the public and to keep the offender from re-offending during the period of time the IID is installed.

The author examined offenders in Alberta, which has a medical advisory board that decides upon cases of license reinstatement. Using a range of data spanning before and after the passage of an IID law, Weinrath was able to create demographically comparable groups of reinstated drivers: those before the law were reinstated with no restriction, compared with those after the law who were issued IIDs.

Weinrath concluded that IIDs were effective in stopping offenders from drinking and driving, committing any new driving offense, and becoming involved in an injurious collision. He also looked at a sub-sample and found that IIDs worked as well or better for chronic offenders (defined in his study as people who had spent time in jail for driving drunk, which is arguably a clear sign that a person cannot reform their behavior). Examining the period after IID removal, IID users have a slightly better survival rate, that is, completing a given time period without re-offense. However, there was not sufficient difference to conclude that IIDs effect long-range behavioral changes in offenders.

The strength of Weinrath’s study is the broad metric of recidivism, which considers repeat offenses but also casts a broader net.

## Jones

“The Effectiveness of Oregon’s Ignition Interlock Program.” Proceeding of the 12<sup>th</sup> International conference on Alcohol, Drugs and Traffic Safety, 1992.

Barney Jones of the Oregon DMV performed one of the early IID quantitative assessments, presented at the International Conference on Alcohol, Drugs and Traffic Safety. Offenders were given a choice between reinstating early with participation in an IID program, or waiting six months to get their license back. About half opted for participation in the program and the other half (non-participants) opted to wait six months to get their license back. Both groups were compared to a control group where options did not exist.

Jones found that non-participants had lower arrest rates than the control group *during their suspension and afterwards*. IID participants had much lower rates during the program, but re-arrests were similar to the control groups in the post-IID period.

Later researchers have faulted Jones’s methodology, and there are a few mistakes in its conception. But his basic conclusions are quite consonant with later findings. To quote:

“Evidence suggests that the beneficial effect of the IID disappears as soon as the device is removed. Finally, there is evidence of widespread circumvention, in the form of IID program participants illegally operating vehicles with no IID installed” (p. 1460).

Other researchers have found little long-term benefit from IID programs. Jones’s last sentence is noteworthy: it appears that IID participants were eager to get their licenses back. But even though an IID was a condition of reinstatement, many simply took the reissued license and drove different vehicles. Jones concedes that police are not properly informed, or unlikely to notice an absent IID, and that drivers are well aware of this fact.

**Studies on alternatives to IIDs – license suspension, electronic monitoring, and vehicle immobilization**

*Voas, Tippetts and Taylor*

“Temporary Vehicle Immobilization: Evaluation of a Program in Ohio.” *Accident Analysis and Prevention* 29:635-642.

Scant literature exists on immobilization, and IIDs have far surpassed immobilization in judicial popularity since 1993. Practically, immobilization can be costly in terms of hours and machinery. And as with seizure, the lag time between orders and implementation can allow the driver to unload a nice car and get the immobilization on a ‘junker.’ As a result, although immobilization is a part of the Wisconsin statutes and this evaluation, greater attention is given to IIDs in this report

The researchers examined an immobilization program in Columbus, Ohio. Repeat offenders of DWS (Driving While Suspended) or DUI were eligible; immobilization and/or impoundment were assigned most frequently to second offense drunk drivers. Over a two-year study period, immobilization was most effective in a) keeping drunk drivers from receiving a DWS and b) keeping second offense DUI offenders from accumulating another DUI offense. For third and greater DUI offenders, the effect of the sanction was much less strong.

Unsurprisingly, the authors found that while their vehicle were immobilized, drivers had lower recidivism rates in both categories, compared to those who did not receive the sanction. What might be surprising is that this effect carries over after the sanction was removed. Unsanctioned drivers were more likely to drive drunk after the sanction period elapsed.

There are a few problems here. First, the authors concede, “the principle limitation of these results is that the sanctions could not be assigned at random” (p. 640). Obviously, most courts are not willing to randomly assign sanctions for the sake of an accurate scientific study. If there is selection bias in assigning the sanction, then it is hard to say that the sanction works even if the data suggests success. Secondly, the authors compare drivers with sanctions to drivers without sanctions. Making this kind of comparison, it is quite likely that sanctions will appear to work at least partially. A better (but not always feasible) comparison would be to compare immobilization with an alternative sanction.



## **Related Studies**

### *Gould and Gould*

“First-time and Multiple-DWI Offenders: A Comparison of Criminal History Records and BAC Levels.” *Journal of Criminal Justice* 20: 527-39.

This study did not address IIDs; instead, it looked at a cross-sectional sample of arrested male drunk drivers and found correlations between severity of drunkenness and previous criminality. The individual with a criminal record *of any sort*, not necessarily related to driving, was more likely to have a seriously elevated BAC, often greater than .18. This dovetails with the other finding, repeated elsewhere, that repeat offenders have consistently higher BAC levels than first time offenders. By looking at subtypes, the authors found that non-vehicular criminality was highly correlated with high BAC levels. Driving with an especially high BAC, then, is simply another manifestation of criminal behavior.

The point that Gould and Gould emphasize is the differential character of offenders. They go so far as to say “failure to identify subtypes ... may explain the high failure rate of OWI intervention programs” (p. 530). For our purposes, the corollary is that IIDs may not be for everyone. A certain level of inclination to behave socially is needed for compliance, and it may be a mistake to see IIDs as the solution to ‘hard-core’ drinking drivers.

### *Lilly, Ball, Curry and McMullen*

“Electronic Monitoring of the Drunk Driver: A Seven Year Study of the Home Confinement Alternative.” *Crime & Delinquency* 39:462-84.

These authors examined a different attempt to deal with recidivist drunk drivers, electronically monitored home confinement (EM). Though the researchers do not make any explicit comparison to IIDs, the two technologies are similar – vendors tout both as foolproof, both are seen as a solution to expensive overcrowded jails, and both arguably allow the offender to live a reasonably normal life.

The finding was that EM worked with few problems, and was quite cost-effective as an alternative to incarceration. Offenders were, by and large, able to comply with EM requirements without much difficulty, and complete the term of home confinement without incident. Parole violations, though, were markedly increased in the post-EM period.

What so distinguishes home confinement is the human time and resources devoted to ensuring its effectiveness.

McKnight and Voas

“The Effect of License Suspension Upon DWI Recidivism.” *Alcohol, Drugs and Driving* 7(1): 43-54.

This study also did not directly address IIDs, but focused on license suspension. The authors found that license suspension has a quantifiable incapacitation effect when compared to no sanction – license suspension keeps people off the road, and thus prevents accidents. When compared with traditional treatment programs or educational programs, suspension was still more effective at keeping people off the road and out of accidents. But treatment was a better deterrent to future risky driving, and affected more of a behavioral modification.

The important lesson for IIDs is that it is important to make a fair comparison. When compared to nothing or a lesser version, license suspension looks strong. When compared to a true alternative use of resources like treatment, suspension looks like an inferior alternative. Perhaps what these conclusions suggest is the need to conjoin remediation and vehicular sanctions.

Wells-Parker, Elisabeth, Robert Bangert-Drowns, Robert McMillen and Marsha Williams.

“Final results from a meta-analysis of remedial interventions with drink/drive offenders.” *Mississippi State University and State University of New York, Albany, USA. Addiction* (1995) Vol. 90, 907-926.

This study examined a broad range of remediation intervention tools (e.g., treatment, education, counseling, sanctions etc.) to determine their effectiveness in changing the behavior of drunken drivers and affecting recidivism rates.

(Abstract)

“A meta-analysis of the efficacy of remediation with drinking/driving offenders included 215 independent evaluations identified through a comprehensive literature search. Study characteristics, including dimensions of methodological quality were coded using scales and protocols developed by expert panels. Among studies with adequate methods, the average effect of remediation on drinking/driving recidivism was an 8-9% reduction over no remediation. A similar effect size was found for alcohol crashes. However, licensing actions tended to be associated with reduction in occurrence of non-alcohol events (e.g., non-alcohol crashes).

*Exploratory regression analysis and confirmatory within study analysis suggested that combinations of modalities - in particular those including education, psychotherapy/counseling and follow-up contact/probation – were more effective than other evaluated modes for reducing drinking/driving recidivism”*

Although this research did not include Ignition Interlock Devices, it still underscores the assertion that there is not one profile of the drunken driver that fits all situations, nor is there one tool that can be used to change the behavior of the offender and to reduce recidivism rates.

### **Does the IID teach and reinforce behavior?**

It appears that the IID achieves modest reductions in recidivism when instituted on the automobiles on repeat offenders. However, IID programs are not permanent; in fact, they are statutorily limited and cannot be permanent unless the driver opts to keep the IID. This begs the question: what happens after IIDs are removed from the automobile? Has the participant learned new, safer behaviors through the reinforcement of the IID?

The IID is very much a positivist device. That is, it provides immediate positive or negative feedback regarding your attempted actions – if you try to drive drunk, you are stopped; if you try to drive sober you are permitted. If people learn through this sort of stimulus and response, then a year with an IID ought to produce a wiser and better-adjusted driver.

Despite this interesting hypothesis, the data suggests that this is not the case. Jones concludes that ‘the IID is effective in reducing arrest rate while it is on the car.’ The data from Morse and Elliot shows that while IIDs initially produce a much higher ‘survival rate’ (percent of people completing a period without reoffense), these rates become almost identical after IID removal (see chart on p. 151 of their article). And Weinrath notes ‘the decline in effectiveness after the interlock was removed.’ (p. 56-7).

In other words, while IIDs may be effective while installed on a vehicle, their efficacy seems to disappear in the long term. Studies that have followed IID participants for months and years after the removal of the device find that recidivism returns to, or even exceeds, the rates of drivers who had their licenses revoked or received different sanctions.

As noted earlier in this report, a compelling theory of drunk driving suggests an absence of rational calculation of costs and benefits. While this does not preclude learning *per se*, the data suggests that the IID alone is insufficient to teach this sort of behavior.

### **Other Uses of the IID**

It has been suggested that one of the secondary uses of the IIDs is as a public relations tool. Because of the IID’s capacity to keep records, a quantifiable measure of prevention is available. Moreover, technological measures to address stubborn social problems like drunk driving often meet with public interest and approval. A brief January 2003 report on IID success by the Pennsylvania DUI Association was picked up by the Associated Press and published in USA Today, the Atlanta Journal-Constitution, and various smaller papers across the country.

Still, these public relations uses should in no way justify the presence of IIDs if there is not evidence that they perform their primary job of reducing drunk driving.

### **Methodological Issues**

Because IIDs are recent and widespread, there has naturally been an effort to evaluate and quantify their effectiveness. Researchers have gathered data from the first year or two of IID programs, and written up results, which are mixed, contradictory, and far from conclusive.

IIDs should not be proclaimed a success based on a limited period of time. Scholars of law and program evaluation sometimes talk about the “Hawthorne effect.” The Hawthorne effect says that when a program is first introduced, it is often accompanied with excellent funding, good publicity, and enthusiasm within the community and government. However, these supporting factors can waver after the initial excitement. Program success declines after the first salvo of resources devoted to it; but the program stay in place, having been deemed effective. In other words, watch out for ‘fads’ when evaluating new programs.